

## **SPECIAL SPECIFICATION**

### **SECTION 15075S**

#### **MECHANICAL IDENTIFICATION**

##### **PART 1 - GENERAL**

###### **1.01 SECTION INCLUDES**

- A. Materials for identification of mechanical products installed under Division 15.

###### **1.02 RELATED SECTIONS**

- A. Section 09910 - Paints.

###### **1.03 REFERENCES**

- A. ANSI A13.1 - Scheme for the Identification of Piping Systems.
- B. NFPA 90A - Installation of Air Conditioning and Ventilating Systems.

###### **1.04 SUBMITTALS**

- A. Submit valve chart and schedule, including valve tag number, location, function, and valve manufacturer's name and model number.

##### **PART 2 - PRODUCTS**

###### **2.01 MANUFACTURERS**

- A. Craftsmark.
- B. Markem Corporation.
- C. Seton Name Plate Company.
- D. W. H. Brady Company.

## 2.02 MATERIALS

- A. Color: Meet requirements of ANSI A13.1, unless specified otherwise.
- B. Plastic Nameplates: Laminated three-layer plastic with engraved white letters on a black background; minimum size 3 inches long and 1 inch high. Minimum lettering height for numbers and names is 1/4-inch and other data is 1/8-inch.
- C. Metal Tags: Brass with stamped letters; tag size minimum 1-1/2 inch diameter with smooth edges.
- D. Stencils: With clean cut symbols and letters 2-1/2 inch high for ductwork and equipment.
- E. Stencil Paint: Semi-gloss, high build epoxy ester or alkyd paint.
- F. Plastic Pipe Markers: Factory fabricated, flexible, semi-rigid plastic, preformed to fit around pipe or pipe covering; minimum information indicating flow direction arrow and fluid being conveyed.
- G. Plastic Tape Pipe Markers: Flexible, vinyl film tape with pressure sensitive adhesive backing and printed markings.
- H. Underground Plastic Pipe Markers: Bright colored continuously printed plastic ribbon tape of not less than 6 inches wide by 4 mils thick, manufactured for direct burial service.

## PART 3 - EXECUTION

### 3.01 PREPARATION

- A. Degrease and clean surfaces to receive adhesive for identification materials.

### 3.02 INSTALLATION

- A. Plastic Nameplates: Secure nameplates to equipment fronts using corrosive resistant screws and rivets. Install nameplates parallel to equipment lines.
- B. Metal Tags: Install with corrosive-resistant chain and "j-hook."
- C. Stencil Painting: Apply single coat sufficient to cover background completely with minimum 4 mils dry film thickness.
- D. Plastic Pipe Markers: Install in accordance with manufacturer's instructions.

- E. Plastic Tape Pipe Markers: Install completely around pipe in accordance with manufacturer's instructions.
- F. Underground Plastic Pipe Markers: Install 6 to 8 inches below finished grade, directly above buried pipe.
- G. Equipment:
  - 1. Identify mechanical equipment scheduled on Drawings with nameplates, except for air devices, sprinkler heads, plumbing fixtures, and plumbing shock absorbers.
  - 2. Identify name, number, function, capacity, and other pertinent information of air handling units, pumps, heat transfer equipment, tanks, and water treatment devices with plastic nameplates.
- H. Controls: Identify control panels and major control components outside panels with plastic nameplates.
- I. Valves: Identify valves in main and branch piping with metal tags.
- J. Fire Dampers: Label with plastic nameplates in accordance with NFPA 90A.
- K. Piping: Paint exposed piping in colors to meet ANSI standards. Identify piping, concealed or exposed, with plastic pipe markers or plastic tape pipe markers. Identify service, flow direction and pressure. Install in clear view and align with axis of piping. Locate identification not to exceed 10 feet on straight runs, including risers and drops, adjacent to each valve and tee at each side of penetration of structure or enclosure and at each obstruction. Provide a flow arrow at each identification marker.
- L. Ductwork: Identify ductwork with stenciled painting. Identify as to air handling unit number, and area served. Locate identification at air handling unit, at each side of penetration of structure or enclosure and at each obstruction.
- M. Use identification of equipment on the "Record Drawings" for nameplate designations.
- N. Attach identification for items such as special switches, etc., located in finished areas, on or in the immediate vicinity of the item.

### 3.03 VALVE CHART AND SCHEDULE

- A. Provide valve chart and schedule in aluminum frame with clear plastic shield. Install at location as directed.

### 3.04 COLOR CODE FOR MARKING PIPE

| MATERIAL                           | BAND   | LETTERS<br>AND ARROW | LEGEND     |
|------------------------------------|--------|----------------------|------------|
| Cold water (potable) WATER         | Green  | White                | POTABLE    |
| Fire protection water WATER        | Red    | White                | FIRE PR.   |
| Hot water (domestic)               | Green  | White                | H.W.       |
| Hot water recirculating (domestic) | Green  | White                | H.W.R.     |
| Heating water supply               | Yellow | Black                | H.T.W.S.   |
| Heating water return               | Yellow | Black                | H.T.W.R.   |
| Condenser water supply             | Green  | White                | COND. W.S. |
| Condenser water return             | Green  | White                | COND. W.R. |
| Low -Temp. Chilled water supply    | Green  | White                | L.C.W.S.   |
| Low – Temp. Chilled water return   | Green  | White                | LCWR       |
| Medium Temp. Chilled water supply  | Green  | White                | M.C.W.S.   |
| Medium Temp. Chilled water return  | Green  | White                | M.C.W.R.   |
| Chemical feed                      | Yellow | Black                | CH. FEED   |
| Compressed Dry air                 | Yellow | Black                | CDA        |
| Natural gas                        | Blue   | White                | NAT. GAS   |
| Freon                              | Blue   | White                | FREON      |
| Fuel oil                           | Yellow | Black                | FUEL OIL   |
| Materials Inherently Hazardous     | Yellow | Black                |            |
| Flammable or Explosive             |        |                      |            |
| Chemically Active or Toxic         |        |                      |            |
| Extreme Temperature                |        |                      |            |
| Extreme Pressure                   |        |                      |            |
| Radioactive                        |        |                      |            |
| Materials of Inherently Low Hazard | Green  | White                |            |
| Liquid or liquid admixture         |        |                      |            |
| Materials of Inherently Low Hazard | Blue   | White                |            |
| Gas or gaseous admixtures          |        |                      |            |
| Fire Quenching Materials           | Red    | White                |            |
| Wet Pipe Sprinkler                 |        |                      |            |
| Dry Pipe Sprinkler                 |        |                      |            |
| Foam, CO <sub>2</sub> , etc..      |        |                      |            |

COLOR CODE MARKING SIZES

| OUTSIDE<br>DIAMETER OF PIPE<br>COVERING<br>(INCHES) | LENGTH OF<br>COLOR BAND<br>(INCHES) | ARROW<br>LENGTH BY<br>WIDTH<br>(INCHES) | SIZE OF LEGEND<br>LETTERS AND<br>NUMERALS<br>(INCHES) |
|---|-------------------------------------|---|---|
| Less than 1-1/2                                     | 8                                   | 8 x 2-1/4                               | 1/2   |
| 1-1/2 to 2-3/8                                      | 8                                   | 8 x 2-1/4                               | 3/4   |
| 2-1/2 to 7-7/8                                      | 12                                  | 8 x 2-1/4                               | 1-1/4   |
| 8 to 10   | 24                                  | 12 x 4-1/2                              | 2-1/2   |
| Over 10   | 32                                  | 12 x 4-1/2                              | 3-1/2   |

END OF SECTION